

CLAIMS

- 1 1. An apparatus comprising:
 - 2 at least one processor;
 - 3 a memory coupled to the at least one processor;
 - 4 a database residing in the memory; and
 - 5 a range constraint defined for the database, the range constraint including at least
 - 6 one limit that is dynamically determined from data in the database.

- 1 2. The apparatus of claim 1 wherein the database comprises at least one database
- 2 table comprising at least one column, and wherein the range constraint is defined for a
- 3 selected column.

- 1 3. The apparatus of claim 2 wherein the at least one limit is dynamically determined
- 2 from data in the selected column.

- 1 4. The apparatus of claim 2 wherein the at least one limit is dynamically determined
- 2 from data in a column that is different than the selected column.

- 1 5. The apparatus of claim 1 wherein the at least one limit is dynamically determined
- 2 by performing statistical analysis on data in the database.

- 1 6. The apparatus of claim 1 further comprising a database manager residing in the
- 2 memory and executed by the at least one processor, wherein the range constraint defines a
- 3 range that includes the at least one limit, and wherein the database manager allows entry
- 4 of data into the database only when the data lies within the defined range.

- 1 7. The apparatus of claim 1 further comprising a database manager residing in the
- 2 memory and executed by the at least one processor, wherein the range constraint defines a
- 3 range that includes the at least one limit, and wherein:
 - 4 if the data lies within the defined range, the database manager allows entry of the
 - 5 data into the database; and
 - 6 if the data lies outside of the defined range, the database manager allows entry of
 - 7 the data into the database and provides a warning message.

- 1 8. An apparatus comprising:
 - 2 at least one processor;
 - 3 a memory coupled to the at least one processor;
 - 4 a database table residing in the memory, the database table including at least one
 - 5 column; and
 - 6 a range constraint defined for a selected column in the database table, the range
 - 7 constraint defining a range that includes at least one limit that is dynamically determined
 - 8 from data in the selected column.
- 1 9. The apparatus of claim 8 further comprising a database manager residing in the memory and executed by the at least one processor, the database manager allowing entry of data into the selected column only when the data lies within the defined range.
- 1 10. The apparatus of claim 8 further comprising a database manager residing in the memory and executed by the at least one processor, the database manager allowing entry of data into the selected column when the data lies outside the defined range and in response thereto, providing a warning message.
- 1 11. The apparatus of claim 8 wherein the at least one limit is dynamically determined by performing statistical analysis on data in the selected column.

- 1 12. An apparatus comprising:
 - 2 at least one processor;
 - 3 a memory coupled to the at least one processor;
 - 4 a database table residing in the memory, the database table including at least one
 - 5 column; and
 - 6 a range constraint defined for a selected column in the database table, the range
 - 7 constraint defining a range that includes at least one limit that is dynamically determined
 - 8 from data in a column that is different than the selected column.
- 1 13. The apparatus of claim 12 further comprising a database manager residing in the
- 2 memory and executed by the at least one processor, the database manager allowing entry
- 3 of data into the selected column only when the data lies within the defined range.
- 1 14. The apparatus of claim 12 further comprising a database manager residing in the
- 2 memory and executed by the at least one processor, the database manager allowing entry
- 3 of data into the selected column when the data lies outside the defined range and in
- 4 response thereto, providing a warning message.
- 1 15. The apparatus of claim 12 wherein the at least one limit is dynamically
- 2 determined by performing statistical analysis on data in the different column.

1 16. A computer-implemented method for defining a dynamic range constraint in a
2 database, the method comprising the steps of:

3 (A) defining a range constraint for a selected portion of the database; and

4 (B) defining at least one limit for the range constraint that is dynamically
5 determined from data in the database.

1 17. The method of claim 16 wherein the database comprises at least one table
2 comprising at least one column, and wherein the selected portion comprises a selected
3 column.

1 18. The method of claim 17 wherein step (B) defines at least one limit that is
2 dynamically determined from data in the selected column.

1 19. The method of claim 17 wherein step (B) defines at least one limit that is
2 dynamically determined from data in a column that is different than the selected column.

1 20. The method of claim 16 wherein step (B) defines at least one limit that is
2 dynamically determined by performing statistical analysis on data in the database.

1 21. A computer-implemented method for limiting data entry into a selected column in
2 a database table, the method comprising the steps of:

3 (A) defining a range constraint for the selected column, the range constraint
4 defining a range that includes at least one limit that is dynamically determined from data
5 in the database table; and

6 (B) allowing entry of data into the selected column only when the data to be
7 entered lies within the defined range.

1 22. The method of claim 21 wherein step (A) defines at least one limit that is
2 dynamically determined from data in the selected column.

1 23. The method of claim 21 wherein step (A) defines at least one limit that is
2 dynamically determined from data in a column that is different than the selected column.

1 24. The method of claim 21 wherein step (A) defines at least one limit that is
2 dynamically determined by performing statistical analysis on data in the database table.

1 25. A computer-implemented method for limiting data entry into a selected column in
2 a database table, the method comprising the steps of:

3 (A) defining a range constraint for the selected column, the range constraint
4 defining a range that includes at least one limit that is dynamically determined from data
5 in the database table; and

6 (B) if the data to be entered lies outside of the defined range, allowing entry of
7 data into the selected column, and in response thereto, providing a warning message.

1 26. The method of claim 25 wherein step (A) defines at least one limit that is
2 dynamically determined from data in the selected column.

1 27. The method of claim 25 wherein step (A) defines at least one limit that is
2 dynamically determined from data in a column that is different than the selected column.

1 28. The method of claim 25 wherein step (A) defines at least one limit that is
2 dynamically determined by performing statistical analysis on data in the database table.

1 29. A program product comprising:

2 (A) a database manager that allows defining a range constraint for a database, the
3 range constraint including at least one limit that is dynamically determined from data in
4 the database; and

5 (B) computer-readable signal bearing media bearing the database manager.

1 30. The program product of claim 29 wherein the computer-readable signal bearing
2 media comprises recordable media.

1 31. The program product of claim 29 wherein the computer-readable signal bearing
2 media comprises transmission media.

1 32. The program product of claim 29 wherein the database comprises at least one
2 database table comprising at least one column, and wherein the range constraint is
3 defined for a selected column.

1 33. The program product of claim 32 wherein the at least one limit is dynamically
2 determined from data in the selected column.

1 34. The program product of claim 32 wherein the at least one limit is dynamically
2 determined from data in a column that is different than the selected column.

1 35. The program product of claim 29 wherein the at least one limit is dynamically
2 determined by performing statistical analysis on data in the database.

1 36. The program product of claim 29 wherein the range constraint defines a range that
2 includes the at least one limit, and wherein the database manager allows entry of data into
3 the database only when the data lies within the defined range.

1 37. The program product of claim 29 wherein the range constraint defines a range that
2 includes the at least one limit, and wherein the database manager allows entry of data into
3 the database and provides a warning message when the data lies outside the defined
4 range.

- 1 38. A program product comprising:
 - 2 (A) a database manager that allows defining a range constraint for a selected
 - 3 column in a database table, the range constraint defining a range that includes at least one
 - 4 limit that is dynamically determined from data in the selected column; and
 - 5 (B) computer-readable signal bearing media bearing the database manager.

- 1 39. The program product of claim 38 wherein the computer-readable signal bearing
- 2 media comprises recordable media.

- 1 40. The program product of claim 38 wherein the computer-readable signal bearing
- 2 media comprises transmission media.

- 1 41. The program product of claim 38 wherein the database manager allows entry of
- 2 data into the selected column only when the data lies within the defined range.

- 1 42. The program product of claim 38 wherein the database manager allows entry of
- 2 data into the selected column and provides a warning message when the data lies outside
- 3 the defined range.

1 43. A program product comprising:

2 (A) a database manager that allows defining a range constraint for a selected

3 column in a database table, the range constraint defining a range that includes at least one

4 limit that is dynamically determined from data in a column that is different than the

5 selected column; and

6 (B) computer-readable signal bearing media bearing the database manager.

1 44. The program product of claim 43 wherein the computer-readable signal bearing

2 media comprises recordable media.

1 45. The program product of claim 43 wherein the computer-readable signal bearing

2 media comprises transmission media.

1 46. The program product of claim 43 wherein the database manager allows entry of

2 data into the selected column only when the data lies within the defined range.

1 47. The program product of claim 43 wherein the database manager allows entry of

2 data into the selected column and provides a warning message when the data lies outside

3 the defined range.

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